

## Phase II Tier 2 Recommendations

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In this updated table:

**Orange highlight** = Recommended for Tier 2 analysis

**Yellow highlight** = Continue to archive

**Green highlight** = No RAL exceedance in Tier 1 RAL interval (lighter green on the right side of table shows which samples were collected)

**Red highlight** = RAL exceedance in Tier 1 RAL interval

**Blue highlight** = For discussion

**Gray highlight** = Pending results

In the vertical extent core diagrams (in addition to above):

Hashed intervals = native sediment

**Purple highlight** = Greater than surface RAL concentration in subsurface interval

**Green highlight** = No RAL exceedance in Tier 1 RAL interval and less than surface RAL concentration in subsurface interval

Location No.	RM	RAL Exceedance Area	Location Type				Recovery Category	Shoaling Area?	Mudline (ft MLLW)	Est. Core Depth (ft)	Location Notes and Rationale (In Addition to Bounding Known RAL Exceedance)	Analytes by Sample Type <sup>1</sup>								Notes	EPA Comments		
			0-10 cm	0-45 cm	0-60 cm	Vertical						0-10 cm Samples		0-45 cm Samples		0-60 cm Samples or Shoaling Intervals		Deeper Samples					
			PCBs	Other	PCBs	Other						PCBs	Other	PCBs	Other	PCBs	Other	PCBs	Other				
500	3	1	a	a	a		1	No	-12.6		Analyze depending on results of Tier 1 samples in this area.	a	-	--	--	a	-	--	--				
501	3	1	a	a	a		1	No	-16.9		Analyze depending on results of Tier 1 samples in this area.	a	-	--	--	a	-	--	--				
502	3	1	a	a	a		1	No	-17.0		Analyze depending on results of Tier 1 samples in this area.	a	-	--	--	a	-	--	--				
503	3	1	x	a			3	No	5.9		Assessing remediation boundary for upper reach.	x	-	a	a (arsenic, cPAHs, dioxins/furans)	--	--	--	--				
504	3	1	x	a			3	No	-2.8		Assessing remediation boundary for upper reach.	x	-	a	a (arsenic, cPAHs, dioxins/furans)	--	--	--	--				
505	3	1	x		x		1	No	-13.0		Assessing remediation boundary for upper reach.	x	-	--	--	x	-	--	--				
506	3	1	x		x		1	No	-15.7		Assessing remediation boundary for upper reach.	x	-	--	--	x	-	--	--				
507	3	1	x	x			3	No	-2.2		Location intended to characterize whether area extends into intertidal.	x	-	x	x (arsenic, cPAHs, dioxins/furans)	--	--	--	--				
508	3	1	x		x		1	No	-17.4		Assessing remediation boundary for upper reach.	x	-	--	--	x	-	--	--				
509	3	1			a	x	1	No	-16.8	9		--	--	--	--	a	-	D	-	BC>12; EG<12			
510	3	1			a	x	1	No	-11.6	6		--	--	--	--	a	-	F	-	BCE>12			
511	3	1	a		x		1	No	-10.2			a	-	--	--	x	-	--	--				
512	3	1		a			3	No	-2.6		Location intended to characterize whether area extends into intertidal.	--	--	a	a (arsenic, cPAHs, dioxins/furans)	--	--	--	--				
513	3	1	x		x	a	1	No	-16.7	9	Analyze depending on results of Tier 1 samples in this area.	x	-	--	--	x	-	a	-				
514	3	1	x		x	x	1	No	-17.2	8		x	-	--	--	x	-	x	-	AB>12; CEG<12			
515	3	2			x		1	No	-17.4			--	--	--	--	x	-	--	--				
516	3.1	2	x		x		1	No	-16.9			x	-	--	--	x	-	--	--				
517	3.1	2			a	x	1	No	-16.8	9		--	--	--	--	a	-	D	-	BC>12; EG<12			
518	3.1	2	x	x			3	No	0.3		Additional location to the west of Area 2 to evaluate toe of bank.	x	x (metals)	x	x (arsenic)								
519	3.1	2			x	a	1	No	-12.2	6	Analyze depending on results of Tier 1 samples in this area.	--	--	--	--	x	-	BCDEF	-				
520	3.1	2			a	x	1	No	-17.2	8		--	--	--	--	a	-	x	-	B>12; CDE<12			
521	3.1	2			a	x	1	No	-15.7	10		--	--	--	--	a	-	x	-	B>12; CDE<12			
522	3.1	2			x		1	No	-17.4			--	--	--	--	x	-	--	--				
523	3.1	2			x		1	No	-17.0							x	-						
524	3.1	3			x		1	No	-16.2			--	--	--	--	x	-	--	--				
525	3.1	3			a		1	No	-13.3			--	--	--	--	a	-	--	--				
526	3.1	3			x		1	No	-17.9			--	--	--	--	x	-	--	--				
527	3.1	3			a	x	1	No	-16.0	9		--	--	--	--	a	-	D	-	BC>12; EG<12			
528	3.1	3			x		1	No	-16.4			--	--	--	--	x	-	--	--				
529	3.1	4			x	a	1	No	-12.0	6	Location intended to evaluate interpolation uncertainty. Analyze depending on results of Tier 1 samples in this area.	--	--	--	--	x	-	BCDEF	-				
530	3.1	5			x		1	No	-17.3			--	--	--	--	x	x (BBP)	--	--				
531	3.2	5			a	x	1	No	-17.0	8		--	--	--	--	a	a (BBP)	D	x (BBP)	BC>12; EG<12			
532	3.2	5			a	x	1	No	-17.1	8		--	--	--	--	a	-	x	-	B>12; CDE<12			

Location No.	RM	RAL Exceedance Area	Location Type				Recovery Category	Shoaling Area?	Mudline (ft MLLW)	Est. Core Depth (ft)	Location Notes and Rationale (In Addition to Bounding Known RAL Exceedance)	Analytes by Sample Type <sup>1</sup>								Notes	EPA Comments		
			0-10 cm	0-45 cm	0-60 cm	Vertical						0-10 cm Samples		0-45 cm Samples		0-60 cm Samples or Shoaling Intervals		Deeper Samples					
			PCBs	Other	PCBs	Other						PCBs	Other	PCBs	Other	PCBs	Other	PCBs	Other				
128	3.2	5	x		x		3	No	-7.0		Phase I archive location to be analyzed as part of Phase II.	x	-	--	--	x	-	--	--				
533	3.2	5			a	x	1	No	-16.5	9		--	--	--	--	a	-	x	-	B>12; CDE<12			
534	3.2	5			a	x	1	No	-17.2	8		--	--	--	--	a	-	D	-	BC>12; EG<12			
535	3.2	5			a	x	1	No	-18.2	7		--	--	--	--	a	-	D	-	BC>12; E<12			
536	3.3	5	x		x		3	No	-17.0			x	-	--	--	x	-	--	--				
537	3.3	5			a	x	1	No	-18.3	7		--	--	--	--	a	-	x	-	B>12; CE<12			
538	3.3	5			a	x	1	No	-19.3	6		--	--	--	--	a	-	x	-	BCE<12 or 130			
539	3.3	5			x	x	1	No	-19.7	6		--	--	--	--	x	-	x	-	BCE<12 or 130			
540	3.3	5			x		1	No	-19.8			--	--	--	--	x	-	--	--				
541	3.3	5	a				1	No	-22.4		Collecting surface sample co-located with LDW-SC48.	a	-	--	--	--	--	--	--	Nearby>12			
143	3.3	7		a			3	No	3.7		Phase I archive location that may be analyzed as part of Phase II depending on results of Tier 1 samples in this area.	--	--	a	-	--	--	--	--	low at IT542 (14.5), IT543 (72 dw), and 545B (44 dw)			
542	3.3	7	x	x			3	No	-2.5		Location intended to evaluate whether area extends into subtidal.	x	-	x	-	--	--	--	--				
543	3.3	7		x	x		3	No	-2.6	6.5	Location intended to evaluate whether area extends into subtidal.	--	--	x	-	--	--	x	-	ABCE<12 or 130			
544	3.3	7	x				3	No	-7.0		Location intended to characterize conditions along bridge footing.	x	-	--	--	--	--	--	--				
545	3.3	7		a	x		3	No	5.7	6.5	Location placed at toe of bank.	--	--	a	-	--	--	x	-	BCE<130			
546	3.3	7	x				3	No	-8.3		Location intended to characterize conditions along bridge footing.	x	-	--	--	--	--	--	--				
547	3.3	7	x				3	No	6.5		Location placed at toe of bank.	x	-	--	--	--	--	--	--				
548	3.3	9			x		3	Yes	-14.3			--	--	--	--	x	x (PAHs, mercury)	--	--				
549	3.4	9			x	x	3	Yes	-13.0	12		--	--	--	--	x	x (PAHs, mercury)	x	x (PAHs, mercury)	ABCE<12, G>12			
550	3.3	8		x			1	No	-21.8			--	--	--	--	x	x (PAHs, mercury)	--	--				
551	3.3	8		x			1	No	-22.3			--	--	--	--	x	-	--	--				
552	3.3	8	x				3	No	-20.9			x	-	--	--	--	--	--	--				
553	3.3	8		a	x		1	No	-21.4	5		--	--	--	--	a	-	x	-	BC<12			
554	3.4	8			x	x	1	No	-19.8	6		--	--	--	--	x	-	x	-				
555	3.4	10	x				3	No	-16.4			x	-	--	--	--	--	--	--				
556	3.4	10	x				3	Yes	-7.1		Location intended to characterize conditions in RAL exceedance area along South Park Marina dock.	x	-	--	--	--	--	--	--				
557	3.4	11			a		3	Yes	-10.7		Analyze depending on results of Tier 1 sample in this area.	--	--	--	--	a	-	--	--	558A is 2.73			
558	3.4	11			x	x	3	Yes	-9.1	16	Reoccupying LDW13 (subsurface) to better understand depth of contamination in shoaling area.	--	--	--	--	x	-	x	-	ABCDE<12; GI>12; K<12			
559	3.5	12	x				3	No	5.6		Location targeting interstitial material in bank.	x	-	--	--	--	--	--	--				

Location No.	RM	RAL Exceedance Area	Location Type				Recovery Category	Shoaling Area?	Mudline (ft MLLW)	Est. Core Depth (ft)	Location Notes and Rationale (In Addition to Bounding Known RAL Exceedance)	Analytes by Sample Type <sup>1</sup>								Notes	EPA Comments		
			0-10 cm	0-45 cm	0-60 cm	Vertical						0-10 cm Samples		0-45 cm Samples		0-60 cm Samples or Shoaling Intervals		Deeper Samples					
			PCBs	Other	PCBs	Other						PCBs	Other	PCBs	Other	PCBs	Other	PCBs	Other				
560	3.5	12		a	x		3	No	-2.7	14	Collect 0- to 60-cm interval subsurface sample rather than 0- to 45-cm sample because subtidal conditions are consistent with the intended use for the South Park Marina. Collect vertical extent data to -16 ft MLLW based on authorized depth of -8 ft MLLW for inner marina.	--	--	--	--	a	a (4-methyl-phenol)	F	-	BCE>12; F is native			
163	3.5	13		x			3	Yes	-12.5		Phase I archive location that will be analyzed as part of Phase II to evaluate shoal between Areas 11 and 13.	--	--	--	--	x	-	--	--	AB<12			
561	3.5	13		x			1	No	-18.2		Collecting subsurface sample to evaluate Recovery Category 1 area along EAA.	--	--	--	--	x	-	--	--				
562	3.5	13		a			3	Yes	-11.6		Analyze depending on results of Tier 1 sample in this area.	--	--	--	--	a	-	--	--	564A<12			
563	3.5	13		a			3	Yes	-14.9		Analyze depending on results of Tier 1 sample in this area.	--	--	--	--	a	-	--	--	564A<12			
564	3.5	13		x	x		3	Yes	-9.8	16	Reoccupying LDW14 (subsurface) to better understand depth of contamination in shoaling area.	--	--	--	--	x	x (dioxins/furans)	x	x (dioxins/furans)	ABCEDG<12; IK>12			
565	3.6	14		x	a		3	Yes	-9.6	16	Location intended to evaluate interpolation uncertainty. Analyze depending on results of Tier 1 samples in this area.	--	--	--	--	x	-	a	-	ABC<12 or 130			
566	3.6	15		x			1	No	-18.8			--	--	--	--	x	-	--	--				
567	3.6	15		x			1	No	-15.8			--	--	--	--	x	-	--	--				
568	3.6	15		a	x		1	No	-18.1	7		--	--	--	--	a	-	F	-	BCE>12 or 130			
569	3.6	15		x			1	No	-15.9			--	--	--	--	x	-	--	--				
570	3.6	16	x	x			1	No	-9.0			x	-	--	--	x	-	--	--				
571	3.6	16		x	x		1	No	-6.9	6		--	--	--	--	x	-	x	-	ABCE<12			
572	3.6	16		x	x		1	Yes	-13.0	12	Based on existing data in this area, the RAL intervals and first two one-ft intervals will be analyzed; the remaining intervals will be archived.	--	--	--	--	x	-	x	-	ABC<12; DE>12			
573	3.6	16		x			1	No	-8.5			--	--	--	--	x	-	--	--				
574	3.7	17		x			1	No	-16.7			--	--	--	--	x	x (mercury)	--	--				
575	3.7	17	x				1	Yes	-14.5			x	x (mercury)	--	--	--	--	--	--				
576	3.7	17		x	a		1	No	-16.7	9	Analyze depending on results of Tier 1 samples in this area.	--	--	--	--	x	x (mercury)	a	a (mercury)	A<12; Hg<SCO			
577	3.7	18		x	a		1	No	-11.3	6	Collect to characterize area near existing core without RAL interval. Analyze depending on results of Tier 1 samples in this area.	--	--	--	--	x	x (arsenic, BBP)	a	a (arsenic, BBP)				
578	3.7	18	x	x			2	No	-1.9			x	x (arsenic, BBP)	x	x (arsenic)	--	--	--	--				
579	3.7	18		a	x		2	No	0.8	6.5		--	--	a	a (arsenic)	--	--	C	x (arsenic)	B > 12; As < 28; native in C			
580	3.7	18	x	x			1	No	-9.4			x	x (arsenic, BBP)	--	--	x	x (arsenic, BBP)	--	--				
581	3.7	18		a	x		2	No	-3.5	6		--	--	--	--	a	-	x	-	BCE<12 (2-4U dw); mostly sand			

Location No.	RM	RAL Exceedance Area	Location Type				Recovery Category	Shoaling Area?	Mudline (ft MLLW)	Est. Core Depth (ft)	Location Notes and Rationale (In Addition to Bounding Known RAL Exceedance)	Analytes by Sample Type <sup>1</sup>								Notes	EPA Comments		
			0-10 cm		0-45 cm		0-60 cm		Vertical			0-10 cm Samples		0-45 cm Samples		0-60 cm Samples or Shoaling Intervals		Deeper Samples					
			PCBs	Other	PCBs	Other	PCBs	Other	PCBs	Other	PCBs	PCBs	Other	PCBs	Other	PCBs	Other	PCBs	Other				
582	3.7	18		a	x			2	No	1.0	6.5		--	--	a	a (arsenic)	--	--	x	F (arsenic)	BCE<12; As>700-1000 mg/kg		
583	3.7	18	x		x			1	No	-12.6			x	x (arsenic, BBP, BEHP)	--	--	x	x (arsenic, BBP, BEHP)	--	--			
584	3.8	18		a	x			2	No	-4.7	6		--	--	--	--	a	-	x	-			
585	3.7	18		a	x			2	No	2.7	6.5		--	--	a	a (arsenic)	--	--	x	F (arsenic)	BCE<12 or 130; As>SCO in BCE (E = 184mg/kg)		
586	3.8	18	x		x			1	No	-12.7			x	x (arsenic, BBP, zinc, BEHP)	--	--	x	x (arsenic, BBP, zinc, BEHP)	--	--			
587	3.8	18			a	x		1	No	-10.1	6		--	--	--	--	a	a (arsenic, BBP, zinc)	F	x (arsenic, BBP, zinc)	BCE>12; BBP in B>SCO		
588	3.8	18		a	x			2	No	2.9	6.5		--	--	a	a (arsenic, cPAHs)	--	--	F	F (arsenic, cPAHs)	B<12; CE>12; As in BCE = 237, 651, and 315 mg/kg		
589	3.8	18			x			1	No	-12.7			--	--	--	--	x	x (arsenic, BBP, zinc, PAHs)	--	--			
590	3.8	18	x		x			1	No	-12.6			x	x (arsenic, BBP, zinc, PAHs)	--	--	x	x (arsenic, BBP, zinc, PAHs)	--	--			
591	3.8	18			a	x		1	No	-8.2	6		--	--	--	--	a	a (arsenic, BBP, PAHs)	x	x (arsenic, BBP, PAHs)			
592	3.8	18		x	a			2	No	-1.9	6.5	Archiving vertical extent core co-located with SD-508; analyze depending on results of Tier 1 samples in this area.	--	--	x	x (arsenic, cPAHs)	--	--	a	BCDEFG (arsenic, cPAHs)			
593	3.8	18		x	x			2	No	-2.1 (est)	6.5		--	--	x	x (arsenic, cPAHs)	--	--	x	x (arsenic, cPAHs)	ABC<12; As<28; PAHs<SCO; cPAHs<ROD RAL		
594	3.8	18			x			1	No	-10.5			--	--	--	--	x	x (arsenic, BBP)	--	--			
595	3.8	18			a			1	No	-11.9		Analyze depending on results of Tier 1 samples in this area.	--	--	--	--	a	a (arsenic, BBP)	--	--		Based on 597BC	
596	3.8	18			a	a		1	No	-8.1	6	Analyze depending on results of Tier 1 samples in this area.	--	--	--	--	a	a (arsenic, BBP)	BCDEF	a (arsenic, BBP)	Based on 597BC		
597	3.8	18		a	x			2	No	-0.4	6.5		--	--	a	a (arsenic)	--	--	D	x (arsenic)	BC>12; E<12		
598	3.8	18		x	a			2	No	4.8	6.5	Analyze depending on results of Tier 1 samples in this area..	--	--	x	x (arsenic)	--	--	BCDEFGH	a (arsenic)			
599	3.8	18	x		x			2	No	-6.0		Reoccupying R26 (surface) based on Phase I results; analyze surface sample for all chemicals with benthic RALs following Phase I sample rules.	x	x (all chemicals with benthic RAL)	--	--	x	-	--	--			
600	3.8	18	a	a				2	No	0.3		Reoccupying SD-510 (surface) based on Phase I results; analyze surface sample for all chemicals with benthic RALs following Phase I sample rules. Analyze depending on results of Tier 1 samples in this area.	a	a (all chemicals with benthic RAL)	a	a (arsenic)	--	--	--	--			
601	3.8	18		a				2	No	3.2		Analyze depending on results of Tier 1 samples in this area.	--	--	a	a (arsenic)	--	--	--	--			

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			0-10 cm		0-45 cm		0-60 cm		Vertical			0-10 cm Samples		0-45 cm Samples		0-60 cm Samples or Shoaling Intervals		Deeper Samples					
			PCBs	Other	PCBs	Other	PCBs	Other	PCBs	Other	PCBs	PCBs	Other	PCBs	Other	PCBs	Other	PCBs	Other				
602	3.8	18	x	x				2	No	5.1		Reoccupying EIT060 (surface) based on Phase I results; analyze surface sample for all chemicals with benthic RALs following Phase I sample rules.	x	x (all chemicals with benthic RAL)	x	x (arsenic)	--	--	--	--			
603	3.8	18	x	x				2	No	2.0		Reoccupying R27 (surface) based on Phase I results; analyze surface sample for all chemicals with benthic RALs following Phase I sample rules.	x	x (all chemicals with benthic RAL, dioxins/furans)	x	x (arsenic, dioxins/furans)	--	--	--	--			
604	3.8	18		a		x		2	No	5.0	6.5		--	--	a	a (arsenic)	--	--	x	x (arsenic)	BCE<12		
605	3.8	19		x				3	No	-1.0		Location intended to evaluate interpolation uncertainty between intertidal location and interpolation-only RAL exceedance area; location will also evaluate whether area extends into subtidal.	--	--	x	-	--	--	--	--			
606	3.8	20		x				3	No	6.0		Location placed at toe of bank.	--	--	x	-	--	--	--	--			
607	3.8	20			x			1	Yes	-12.2		Location intended to evaluate whether area extends into subtidal. Z-layer sample (-17 to -18 ft MLLW) will also be collected at this location.	--	--	--	--	x	-	--	--	ABC<12		
608	3.8	20		x		a		3	No	5.0	6.5	Location placed at toe of bank. Archiving vertical extent core; analyze depending on results of Tier 1 samples in this area.	--	--	x	-	--	--	a	-			
609	3.8	20		a		x		3	No	-3.1	6.5		--	--	a	-	--	--	D	-	BC>12, E<12		
610	3.8	20			x			3	No	-9.6		Location intended to evaluate whether area extends into subtidal.	--	--	--	--	x	-	--	--			
611	3.8	20		x				3	No	4.8		Location placed at toe of bank.	--	--	x	-	--	--	--	--			
612	3.8	20			x			3	No	-5.5		Location intended to evaluate whether area extends into subtidal.	--	--	--	--	x	-	--	--			
613	3.8	21	x					3	No	1.5		Reoccupying LDW-SSSP3-A (surface); analyze surface sample for all chemicals with benthic RALs following Phase I sample rules. Expedite chemistry and potentially toxicity test if RAL exceedances remain. Collect toxicity testing conventionals.	x	x (all chemicals with benthic RALs)	--	--	--	--	--	--	No tox testing required		
614	3.8	22			a			3	No	-8.4		Analyze depending on results of Tier 1 sample in this area. Location intended to evaluate interpolation uncertainty between intertidal location and interpolation-only RAL exceedance area.	--	--	--	--	a	-	--	--			
231	3.8	22			x			1	Yes	-12.8		Phase I archive location that will be analyzed as part of Phase II to evaluate interpolation uncertainty (shoaling and Z-layer samples will be analyzed).	--	--	--	--	x	-	--	--	ABZ<12 (A = 2.41; IT232 was 15.1)		
615	3.8	23		x				na	No	0.8		Reoccupying SD-512 (subsurface) to characterize conditions in ENR/AC plot. As described in Section 4.1.2.1, 3 samples will be collected here to allow for characterization of the 0-45-cm interval, both including and below the ENR layer.	--	--	x	x (arsenic)	--	--	--	--			
616	3.8	23	x	x				2	No	6.6		Location intended to collect bank material behind toe wall. Will collect material below 45 cm using hand auger if possible.	x	x (BBP, mercury, zinc, lead)	x	-	--	--	--	--			

Location No.	RM	RAL Exceedance Area	Location Type				Recovery Category	Shoaling Area?	Mudline (ft MLLW)	Est. Core Depth (ft)	Location Notes and Rationale (In Addition to Bounding Known RAL Exceedance)	Analytes by Sample Type <sup>1</sup>								Notes	EPA Comments		
			0-10 cm		0-45 cm		0-60 cm		Vertical			0-10 cm Samples		0-45 cm Samples		0-60 cm Samples or Shoaling Intervals		Deeper Samples					
			PCBs	Other	PCBs	Other	PCBs	Other	PCBs	Other	PCBs	PCBs	Other	PCBs	Other	PCBs	Other	PCBs	Other				
617	3.9	23	x				na	No	1.7		Reoccupying LDW-PILOT9A-SC1 (subsurface) to characterize conditions in ENR/AC plot. At this location, only the 0-45 cm interval including the ENR layer will be sampled.	--	--	x	x (arsenic)	--	--	--	--				
618	3.9	23	x				2	No	0.6		Reoccupying pre-construction pilot 0-10 cm location (LDW-Pilot9A-SS4) to verify post-construction 0-45 cm RAL condition. As described in Section 4.1.2.1, 3 samples will be collected here to allow for characterization of the 0-45-cm interval, both including and below the ENR layer.	--	--	x	x (arsenic)	--	--	--	--				
619	3.9	23	x	x			2	No	6.5		Location intended to collect bank material behind toe wall. Will collect material below 45 cm using hand auger if possible.	x	x (BBP, mercury, zinc, lead)	x	-	--	--	--	--				
620	3.9	23	x	x			1	No	-9.6		Location intended to evaluate whether area extends into subtidal.	x	x (BBP, mercury, zinc, lead)	--	--	x	x (BBP, mercury, zinc, lead)	--	--				
621	3.9	23	a	x			2	No	-1.9	6.5		--	--	a	BBP	--	--	B	B (BBP)				
622	3.9	23	x	x			2	No	5.5	6.5		--	--	x	x (dioxins/furans)	--	--	x	x (dioxins/furans)				
623	3.9	23	x	x			1	No	-9.1		Location intended to evaluate whether area extends into subtidal.	x	x (BBP, mercury, zinc, lead)	--	--	x	x (BBP, mercury, zinc, lead)	--	--				
624	3.9	23	x				na	No	1.9		Reoccupying LDW-SC52 (subsurface) to characterize conditions in ENR/AC plot. As described in Section 4.1.2.1, 3 samples will be collected here to allow for characterization of the 0-45-cm interval, both including and below the ENR layer.	--	--	x	x (arsenic)	--	--	--	--				
625	3.9	23	x	x			2	No	8.0		Location intended to characterize area between ENR/AC pilot plot and bulkhead.	x	x (arsenic, BBP, mercury, zinc, lead)	x	x (arsenic)	--	--	--	--				
626	3.9	23	x				na	No	1.1		Location intended to characterize conditions in ENR/AC plot. As described in Section 4.1.2.1, 3 samples will be collected here to allow for characterization of the 0-45-cm interval, both including and below the ENR layer.	--	--	x	x (arsenic)	--	--	--	--				
627	3.9	23	x	x			2	No	4.3 (est)		Location intended to characterize area between ENR/AC pilot plot and bulkhead.	x	x (arsenic, BBP, mercury, zinc, lead)	x	x (arsenic)	--	--	--	--				
628	3.9	24		a			1	Yes	-13.5		Analyze depending on results of Tier 1 sample in this area.	--	--	--	--	a	-	--	--	Not needed based on 629			
629	3.9	24		x	x		1	Yes	-13.3	12	Reoccupying LDW17 (subsurface) to better understand depth of contamination in shoaling area.	--	--	--	--	x	-	x	-	ABCDFH<12; J>12			
630	3.9	26		x	a		1	No	-8.7	6	Location intended to evaluate interpolation uncertainty. Archiving vertical extent core; analyze depending on results of Tier 1 samples in this area.	--	--	--	--	x	-	a	-				

Location No.	RM	RAL Exceedance Area	Location Type				Recovery Category	Shoaling Area?	Mudline (ft MLLW)	Est. Core Depth (ft)	Location Notes and Rationale (In Addition to Bounding Known RAL Exceedance)	Analytes by Sample Type <sup>1</sup>						Notes	EPA Comments			
			0-10 cm	0-45 cm	0-60 cm	Vertical						0-10 cm Samples		0-45 cm Samples		0-60 cm Samples or Shoaling Intervals		Deeper Samples				
			PCBs	Other	PCBs	Other						PCBs	Other	PCBs	Other	PCBs	Other					
249	3.9	26	x		x		1	Yes	-13.4		Phase I archive location to be analyzed as part of Phase II (shoaling and Z-layer samples will be analyzed).	x	x (metals)			x	x (metals)			SS and ABZ<12: metals < SCO		
631	4	27	x				2	No	-2.3		Reoccupying B9b (surface) to provide additional information regarding recovery category designation.	x	x (arsenic, cPAHs, BEHP)	--	--	--	--	--	--			
632	4	27		a	x		2	No	2.5	6.5		--	--	a	a (dioxins/furans)	--	--	D	x (dioxins/furans)	BC>12		
633	4	27	x				2	No	2.8		Reoccupying AN-018 (surface) to provide additional information regarding recovery category designation in this area.	x	a (arsenic, cPAHs, dioxins/furans, BEHP)	--	--	--	--	--	--			
634	4	27	x	x	x		1	No	-6.4	6	Location intended to evaluate whether area extends into subtidal.	x	x (dioxins/furans)	--	--	x	x (dioxins/furans)	x	x (dioxins/furans)	ABCE<12 or 130		
635	4	27		a	a		2	No	0.2	6.5	Analyze depending on results of Tier 1 samples in this area.			a	a (dioxins/furans)	--	--	a	a (dioxins/furans)	Not needed		
636	4	27	x	a			2	No	1.4			x	-	a	a (dioxins/furans)	--	--	--	--	No IT needed		
254	4	27			x		1	Yes	-13.3		Phase I archive location that will be analyzed as part of Phase II.	--	--	--	--	x	-	--	--	AB<12		
637	4	28		a	x		1	No	0.5	6.5		--	--	a	-	--	--	x	-	BCE<130		
638	4	28	x				1	No	-3.7		Location intended to evaluate whether area extends into subtidal.	--	--	x	-	--	--	--	--			
639	4	28	x				1	No	-1.5			--	--	x	-	--	--	--	--			
640	4	29			x	a	1	No	-5.3	6	Location intended to evaluate interpolation uncertainty. Archive vertical extent core; analyze depending on results of Tier 1 sample in this area.	--	--	--	--	x	-	a	-			
641	4	30	a	x			2	No	0.3		Collect sample with appropriate subsurface RAL interval near AN-041.	a	a (BBP)	x	-	--	--	--	--	Due to 646		
642	4	30	a				2	No	-7.9		Analyze depending on results of Tier 1 samples in this area.	a	a (BBP)	--	--	--	--	--	--			
643	4	30	x				2	No	-3.0		Location intended to evaluate whether area extends into subtidal.	x	x (BBP)	--	--	--	--	--	--			
644	4	30		a	a		2	No	-1.2	6.5	Analyze depending on results of Tier 1 samples in this area.	--	--	a	-	--	--	BCDE	-	Due to 646		
645	4	30	x				2	No	-1.0		Reoccupying AN-011 (surface) to provide additional information regarding recovery category designation in this area.	x	x (arsenic, cPAHs, dioxins/furans, BBP, BEHP)	--	--	--	--	--	--			
646	4	30	x				2	No	5.1		Location placed at toe of bank.	x	x (dioxins/furans, BBP)	--	--	--	--	--	--			
647	4	31	x	x			3	No	-2.1			x	x (dioxins/furans, mercury)	x	x (dioxins/furans)	--	--	--	--	Because D/F data are still pending, recs in this area may change		
648	4	31		a	x		3	No	0.1	6.5		--	--	a	a (dioxins/furans)	--	--	DE	x (dioxins/furans)	BC>12		
649	4	31		a	x		3	No	5.4	6.5		--	--	a	a (dioxins/furans)	--	--	x	x (dioxins/furans)	B>12 (232); CE<130		
650	4	31		a	x		3	No	8.9	6.5		--	--	a	a (dioxins/furans)	--	--	x	x (dioxins/furans)	BC<130		

Location No.	RM	RAL Exceedance Area	Location Type				Recovery Category	Shoaling Area?	Mudline (ft MLLW)	Est. Core Depth (ft)	Location Notes and Rationale (In Addition to Bounding Known RAL Exceedance)	Analytes by Sample Type <sup>1</sup>								Notes	EPA Comments		
			0-10 cm		0-45 cm		0-60 cm		Vertical			0-10 cm Samples		0-45 cm Samples		0-60 cm Samples or Shoaling Intervals		Deeper Samples					
			PCBs	Other	PCBs	Other	PCBs	Other	PCBs	Other	PCBs	PCBs	Other	PCBs	Other	PCBs	Other	PCBs	Other				
651	4	31	x	x			3	No	-0.9			x	x (dioxins/furans, mercury)	x	x (dioxins/furans)	--	--	--	--				
652	4.1	31		a		x	3	No	0.1	6.5		--	--	a	a (dioxins/furans)	--	--	x	x (dioxins/furans)	B > 12 (847); CE < 12; 0-45 for interpolation			
653	4.1	31	a	x	x	3	No	2.8	6.5			--	--	a	a (dioxins/furans)	--	--	D	x (dioxins/furans)	BC > 12 (330 and 663); E < 130			
654	4.1	31	a	x	x	3	No	4.1	6.5			--	--	a	a (dioxins/furans)	--	--	x	x (dioxins/furans)	B > 12 (15.3); CE < 130			
655	4.1	31	a	x	x	3	No	9.2	6.5			--	--	a	a (dioxins/furans)	--	--	x	x (dioxins/furans)	BCE < 12 or 130			
656	4.1	31	x	x			3	No	-1.8			x	x (dioxins/furan)	x	x (dioxins/furans)	--	--	--	--				
657	4.1	31	a	x	x	3	No	-0.8	6.5			--	--	a	a (dioxins/furans)	--	--	x	x (dioxins/furans)				
658	4.1	31	a	x	x	3	No	2.6	6.5			--	--	a	a (dioxins/furans)	--	--	x	x (dioxins/furans)	BCE < 12 (note B EF was 0.98)			
659	4.1	31	a	x	x	3	No	4.1	6.5			--	--	a	a (dioxins/furans)	--	--	x	x (dioxins/furans)	BCE < 12 or 130			
660	4.1	31	a	x	x	3	No	5.5	6.5			--	--	a	a (dioxins/furans)	--	--	C	x (dioxins/furans)	B > 12 (163); C and below is native; 0-45 to help bound			
661	4.1	31	x				3	No	2.2			x	x (dioxins/furans, phenol)	--	--	--	--	--	--				
662	4.1	31	a	x	x	3	No	4.0	6.5			--	--	a	a (dioxins/furans)	--	--	x	x (dioxins/furans)	B > 12 (34.4); CE < 12; 0-45 to bound			
663	4.1	31	a	x	x	3	No	8.1	6.5			--	--	a	a (dioxins/furans)	--	--	D	x (dioxins/furans)	BC > 12 (183 and 89.3); E < 130; 0-45 to help bound			
664	4.1	31	a	x	x	3	No	2.2	6.5			--	--	a	a (dioxins/furans)	--	--	x	x (dioxins/furans)	BCE < 12 and near 313			
665	4.1	31	a	x	x	3	No	4.2	6.5			--	--	a	a (dioxins/furans)	--	--	x	x (dioxins/furans)	B > 12 (22.9); CE < 12; 0-45 to bound			
666	4.1	31	a	x	x	3	No	7.8	6.5			--	--	a	a (dioxins/furans)	--	--	D	x (dioxins/furans)	BC > 12 (699 dw and 13.9); E < 130; 0-45 to help bound			
667	4.1	31	x				3	No	0.1			x	x (dioxins/furans)	--	--	--	--	--	--				
668	4.1	31	x	x			3	No	3.6			x	x (dioxins/furans)	x	x (dioxins/furans)	--	--	--	--				
669	4.1	31	a	x	x	3	No	4.8	6.5			--	--	a	a (dioxins/furans)	--	--	D	x (dioxins/furans)	BC > 12 (47.7, 25.6); E < 12; 0-45 to bound			
670	4.1	31	a	x	x	3	No	8.1	6.5			--	--	a	a (dioxins/furans)	--	--	x	x (dioxins/furans)	BCE < 130; 0-45 to help bound			
321	4.2	31	x	x			1	No	1.5		Phase I archive location that will be analyzed as part of Phase II to evaluate area south of Area 31.	-	x (arsenic)	-	x (arsenic)	--	--	--	--				
671	4.2	32		x		1	No	-8.7				--	--	--	--	x	-	--	--				
672	4.2	32		x		1	No	-5.2				--	--	--	--	x	-	--	--				

Location No.	RM	RAL Exceedance Area	Location Type				Recovery Category	Shoaling Area?	Mudline (ft MLLW)	Est. Core Depth (ft)	Location Notes and Rationale (In Addition to Bounding Known RAL Exceedance)	Analytes by Sample Type <sup>1</sup>								Notes	EPA Comments		
			0-10 cm		0-45 cm		0-60 cm		Vertical			0-10 cm Samples		0-45 cm Samples		0-60 cm Samples or Shoaling Intervals		Deeper Samples					
			PCBs	Other	PCBs	Other	PCBs	Other	PCBs	Other	PCBs	PCBs	Other	PCBs	Other	PCBs	Other	PCBs	Other				
673	4.2	32		a	x	1	No	-6.0	20	Collect vertical extent data to -26 ft MLLW based on authorized depth of -18 ft MLLW in Slip 6 berthing area.	--	--	--	--	a	-	x	-	BEGHI<12 or 130; C>130; note that 673 was collected as two cores (one was 0-10 ft (closer to shoreline) and the other was 10-20 ft further offshore due to rip rap. The top core had B < 12 and C > 12).				
674	4.2	32		a	x	1	No	-8.5	18	Collect vertical extent data to -26 ft MLLW based on authorized depth of -18 ft MLLW in Slip 6 berthing area.	--	--	--	--	a	-	x	-	ABCEGI < 12; note that this core was also collected as two cores with depth (at exact same location)				
675	4.2	32	x	x		1	No	-8.3			x	-	--	--	x	-	--	--					
676	4.2	32	a	a		1	No	-7.6		Analyze depending on results of Tier 1 samples in this area.	a	-	--	--	a	-	--	--	No need based on PCBs at 675				
677	4.2	32		a		1	No	-8.6		Reoccupying LDW-SC53 (subsurface). Analyze depending on results of Tier 1 samples in this area and pending cPAH ESD resolution.	--	--	--	--	a	a (cPAHs)	--	--	Pending ESD				
678	4.2	32	a			1	No	-8.4		Reoccupying R41 (surface). Analyze depending on results of Tier 1 samples in this area and pending cPAH ESD resolution.	a	a (cPAHs)	--	--	--	--	--	--	Pending ESD				
679	4.3	33		x		1	No	-2.8			--	--	x	-	--	--	--	--					
358	4.3	33		a		3	No	-0.6		Phase I archive location that may be analyzed as part of Phase II to evaluate interpolation uncertainty.	--	--	a	-	--	--	--	--	Not needed based on 679				
680	4.6	34	a	x	x	1	No	-4.6		Expedite chemistry for subsurface sample; potential toxicity testing location. Collect toxicity testing conventionals. Surface sample is a Tier 2 bounding sample.	a	a (PAHs)	--	--	a	x (PAHs, 1,2,4-trichlorobenzene)	--	--	SS not needed based on SC; no tox test				
681	4.6	34	a	a		3	No	3.8		Bounding archive sample.	a	a (PAHs)	a	a (cPAHs)	--	--	--	--	Pending based on tox test result of 682 and ESD				
682	4.6	34	x	x		1	No	2.2		Reoccupying LDW20-SS379 (surface) for toxicity testing. Collect toxicity testing conventionals.	--	--	--	--	--	--	--	--	Toxicity testing results pending				
683	4.7	34		a	a	1	No	6.8	6.5	Analyze depending on results of Tier 1 samples in this area.	--	--	a	a (PAHs, 1,2,4-trichlorobenzene)	--	--	a	a (PAHs, 1,2,4-trichlorobenzene)	Pending based on tox test result of 682				
684	4.7	34		a	a	1	No	0.7	6.5	Analyze depending on results of Tier 1 samples in this area.	--	--	a	a (PAHs, 1,2,4-trichlorobenzene)	--	--	a	a (PAHs, 1,2,4-trichlorobenzene)	Pending based on tox test result of 682				
685	4.7	34	x	x		1	No	2.1		Expedite chemistry; potential toxicity testing location. Collect toxicity testing conventionals.	a	x (PAHs)	a	x (PAHs, 1,2,4-trichlorobenzene)	--	--	--	--					

Location No.	RM	RAL Exceedance Area	Location Type				Recovery Category	Shoaling Area?	Mudline (ft MLLW)	Est. Core Depth (ft)	Location Notes and Rationale (In Addition to Bounding Known RAL Exceedance)	Analytes by Sample Type <sup>1</sup>								Notes	EPA Comments			
			0-10 cm		0-45 cm		0-60 cm		Vertical			0-10 cm Samples		0-45 cm Samples		0-60 cm Samples or Shoaling Intervals		Deeper Samples						
			PCBs	Other	PCBs	Other	PCBs	Other	PCBs	Other		PCBs	Other	PCBs	Other	PCBs	Other	PCBs	Other					
686	4.7	34	a	a			1	No	-0.2		Bounding archive sample.	a	x (PAHs)	a	x (PAHs, 1,2,4-trichlorobenzene)	--	--	--	--	Not needed based on 685 (SS analyzed in error)				
687	4.7	35	x				3	No	7.4		Expedite chemistry; potential toxicity testing location. Collect toxicity testing conventional.	a	x (PAHs)	--	--	--	--	--	--	No tox test				
688	4.7	35	x				3	No	6.9		Reoccupying LDW20-SS383 (surface) for toxicity testing. Collect toxicity testing conventional.	--	---	--	--	--	--	--	--	No tox test (analyzed by ARI in error)				
689	4.7	35	x				3	No	5.5		Expedite chemistry; potential toxicity testing location. Collect toxicity testing conventional.	a	x (PAHs)	--	--	--	--	--	--	No tox test				
690	4.7	35	x				3	No	9.9		Expedite chemistry; potential toxicity testing location. Collect toxicity testing conventional.	a	x (PAHs)	--	--	--	--	--	--	No tox test				
384	4.7	35		x			3	No	7.5		Phase I archive location. No sample collection needed; lab will be informed not to discard in June. Analyze 0-45-cm archive sample per EPA request, pending cPAH ESD resolution.	--	---	a	x (cPAHs)	--	---	--	---					
691	4.7	36	x	x			3	No	5.7		Expedite surface and subsurface sediment chemistry to determine number and location of vertical extent cores.	x	-	x	-	--	--	--	--					
692	4.7	36	x	x			3	No	5.3		Expedite surface and subsurface sediment chemistry to determine number and location of vertical extent cores.	x	-	x	-	--	--	--	--					
693	4.7	36	x	x			3	No	6.5		Expedite surface and subsurface sediment chemistry to determine number and location of vertical extent cores.	x	-	x	-	--	--	--	--					
694	4.7	36	x	x	x	1	No	8.8	6.5	Collecting deeper intervals co-located with LDW18-BNK6-1 (surface).	--	--	a	-	--	--	x	-	BCE<12 (SS and A were added to Tier 1)					
695	4.7	36	x	x			1	No	8.9		Expedite surface and subsurface sediment chemistry to determine number and location of vertical extent cores.	x	-	x	-	--	--	--	--					
696	4.7	36	x	x			1	No	9.0		Expedite surface and subsurface sediment chemistry to determine number and location of vertical extent cores.	x	-	x	-	--	--	--	--					
697	4.7	36	x				1	No	1.6		Collect sample with appropriate subsurface RAL interval.	--	--	x	-	--	--	--	--					
698	4.9	37	a	x	2	No	8.4	6.5				--	--	a	-	--	--	x	-					
699	4.9	37	a	x	2	No	8.0	6.5				--	--	a	-	--	--	x	-					
700	4.9	37	x			2	No	-8.1 (est)				x	x (benzoic acid)	--	--	--	--	--	--					
701	4.9	37	x	a	x	2	No	8.1	6.5			x	x (benzoic acid)	a	-	--	--	x	-	BCE<12 or 130				
702	4.9	37	a	x	x	2	No	7.7	6.5			--	--	a	-	--	--	x	-	702Y: BCE<12				
703	4.9	37	x	a	a	2	No	4.8	6.5	Reoccupying R88 (surface); analyze surface sample for all chemicals with benthic RALs following Phase I sample rules. Expedite surface sample chemistry to determine if vertical extent core will be collected (if RAL exceedances above ENR limit remain).	x	x (all chemicals with benthic RALs)	a	a	--	--	a	a						
704	4.9	37	x				na	No	-2.1		Bounding shoreline exceedances.	x	-	--	--	--	--	--	--					

Location No.	RM	RAL Exceedance Area	Location Type				Recovery Category	Shoaling Area?	Mudline (ft MLLW)	Est. Core Depth (ft)	Location Notes and Rationale (In Addition to Bounding Known RAL Exceedance)	Analytes by Sample Type <sup>1</sup>								Notes	EPA Comments		
			0-10 cm	0-45 cm	0-60 cm	Vertical						0-10 cm Samples		0-45 cm Samples		0-60 cm Samples or Shoaling Intervals		Deeper Samples					
			PCBs	Other	PCBs	Other						PCBs	Other	PCBs	Other	PCBs	Other	PCBs	Other				
705	4.9	37	x				2	No	-4.8		Bounding shoreline exceedances.	x	-	--	--	--	--	--	--				
706	4.9	37	x				na	No	-2.8		Bounding shoreline exceedances.	x	-	--	--	--	--	--	--				
707	5.0	37	x				2	No	-0.6		Bounding upstream of PCB EF of 0.9.	x	-	--	--	--	--	--	--				

## Notes:

1. The columns indicating analytes by sample type use green shading to show which sample intervals were collected. A single dash (-) indicates that the sample will not be analyzed for any additional chemicals. A double dash (--) indicates that a given interval will not be collected.

a: Tier 2 archive sample

BBP: butyl benzyl phthalate

BEHP: bis(2-ethylhexyl) phthalate

cPAH: carcinogenic polycyclic aromatic hydrocarbon

EAA: early action area

EF: exceedance factor

EPA: US Environmental Protection Agency

ENR/AC: enhanced natural recovery/activated carbon

ESD: explanation of significant differences

FNC: Federal Navigation Channel

MLLW: mean lower low water

PAH: polycyclic aromatic hydrocarbon

PCB: polychlorinated biphenyl

RAL: remedial action level

RM: river mile

x: Tier 1 sample to be analyzed